

**Draft Summary of the Environmental Work Group Meeting
Oroville Facilities Relicensing (FERC Project No. 2100)
February 19, 2003**

The Department of Water Resources (DWR) hosted a meeting for the Environmental Work Group on February 19, 2003 in Oroville.

A summary of the discussion, decisions made, and action items is provided below. This summary is not intended to be a transcript, analysis of the meeting, or to indicate agreement or disagreement with any of the items summarized, except where expressly stated. The intent is to present a summary for interested parties who could not attend the meeting. The following are attachments to this summary:

Attachment 1	Meeting Agenda
Attachment 2	Meeting Attendees
Attachment 3	Flip Chart Notes
Attachment 4	Contact List for Environmental Studies
Attachment 5	Interim Report SP-F21, Task 4
Attachment 6	Progress Report SP-W7
Attachment 7	Interim Report SP-T9
Attachment 8	Draft Resource Action Development for Geographic Area Discussion: The Low Flow Channel from the Fish Barrier Dam to the Afterbay Outfall

I. Introduction

Attendees were welcomed to the Environmental Work Group meeting. Attendees introduced themselves and their affiliations. The desired outcomes of the meeting were discussed as listed on the meeting agenda. The meeting agenda and list of meeting attendees are appended to this summary as Attachments 1 and 2, respectively. Meeting flip chart notes are included as Attachment 3.

II. Action Items – January 29, 2003 Environmental Work Group Meeting

A summary of the January 29, 2003 Environmental Work Group meeting is posted on the relicensing web site. The Facilitator reviewed the status of action items from that meeting as follows:

Carry-Over

Action Item #E67: Prepare a map of the surveyed areas for SP-T2
Responsible: DWR
Status: Gail Kuenster, DWR study lead reported that the mapping is complete. The survey included all lands within 150 feet of project facilities. The six sensitive species surveyed all occur in vernal pools and serpentine rock within the Oroville Wildlife Area (OWA). Gail will forward a copy of the map as requested to Linnea Hanson, Plumas Forest.

New

Action Item #E74: Expand list of goals document to include other resource areas
Responsible: DWR/consultants
Status: Terry Mills, DWR environmental Resource Area Manager (RAM) reported that staff is putting together an access database for all of the resource areas. They will continue to consolidate goals as appropriate.

Action Item #E75: Provide list of all environmental study leads and contact numbers
Responsible: DWR/consultants

Status: DWR distributed a List of Project Studies that includes study leads and contact information (see Attachment 4). Eric Theiss representing National Marine Fisheries Services stated his hope that this information would be provided at the task/sub-task level and include a deliverable schedule by sub-task. Wayne Dyok with the consulting team suggested that since the study leads are ultimately responsible for all of the tasks and sub-tasks, the work group should consider the study leads the primary contact for inquiries. Eric responded that he would again ask DWR for the Gantt chart so that he can better understand what is happening and when so he can monitor the work. He is concerned that issues agreed upon during development of the study plans will be misinterpreted by DWR and the information he needs will not be available. Terry Mills asked Eric what specific issues he is concerned about. Eric responded that to his knowledge, DWR has not applied for Section 10 coverage on work that would be done under the study plans except for the work at the fish hatchery ladder. He said the process, although streamlined within NOAA still requires 135 days to process. Sharon Stohrer representing State Water Resources Control Board (SWRCB) asked if the relicensing process would include a Section 7 consultation instead of Section 10 and Eric replied that both consultations would occur. Terry Mills reported that his staff is working on Section 10 coverage through federal channels for the studies DWR is working on now and Wayne Dyok added that at a future date, DWR will formally ask to be the designee for Section 7. Terry will check on the status of Section 10 consultation.

Action Item #E76: Investigate and report back on status of final study plan distribution
Responsible: DWR/consultants
Status: The Facilitator reported that distribution of both CD and paper versions of the final study plans are eminent. The final versions have been collected and are in production.

Action Item #E77: Prepare bullet list of potential resource actions for discussion purposes
Responsible: DWR/consultants
Status: Terry Mills suggested we defer discussion on this action item and handout until agenda item V (see discussion below)

III. Update on Plenary Group Actions

The Facilitator reminded the participants that a Task Force initiated by the Plenary Group was given three tasks to complete: 1) develop a template for describing resource actions or protection, mitigation, and enhancement measures (PM&Es); 2) develop a means of evaluating the resource actions; and 3) develop protocols that will move the process through the settlement negotiation phase. She reported that the Plenary Group is expected to approve the template at their February 25, 2003 meeting. The Facilitator reported that target submittal dates for resource actions are early April and early June and some discomfort has been expressed with completing a template prior to understanding how it will be evaluated. Sharon Stohrer indicated the Task Force is struggling with criteria development and does not want to be exclusionary.

Mike Mainz representing Department of Fish and Game (DFG) supports the development and evaluation of resource actions within the work groups. Rich Walkling representing Natural Heritage Institute (NHI) identified three paths for resource action/PM&E submittal: developed within the work groups, submitted by individual stakeholders or suggested by study leads. Ken Kules representing Metropolitan Water District (MWD) noted the Plenary Task Force is creating an environment where the work groups take control and develop and evaluate the PM&Es. He added that the work groups would all need to consider cross-resource effects and would likely continue to hold joint work group meetings as necessary to address those issues and seek mutually agreeable solutions.

IV. Study Deliverables and Implementation Updates

SP-F21

Dave Olson consulting team study lead distributed Interim Report SP- F21, Task 4 Predation PM&E Literature Review (Attachment 5). He described the effort as a reconnaissance level literature review conducted to summarize various predation management and monitoring studies to determine their effectiveness and potential applicability to the Oroville Facilities. He asked participants for further direction regarding which strategies the Environmental Work Group would like further characterized. Ken Kules asked what percentage of failure to return could be attributed to predation. Dave responded that such information would take a prolonged effort to evaluate all variables within the life cycle so the decision was made in the technical task force to move immediately to resource actions that may lessen the impact.

Eric Theiss asked if staff had evaluated a program on the Columbia River in Washington using squawfish. Dave Olson responded that he was familiar with that program and studies seem to suggest that when large numbers of the predator were removed, another predator filled the niche and seems to have actually benefited from the program. Terry Mills added that the USFWS has done predation studies at the Red Bluff Diversion Dam that might include valuable information and also suggested the team look at recommendations appropriate to the Feather River contained in the USFWS Anadromous Fish Restoration Program. Eric asked the team to also research the relationship between water temperature and predator consumption rate to better understand what the effect would be if temperatures were lowered at the Thermalito Afterbay outlet to the Feather River.

Chuck Hansen representing the State Water Contractors remarked that it is somewhat difficult to see how this all will eventually fit together and he is unclear what the impacts are and how the project actually effects predation. Wayne Dyok agreed there is difficulty in doing steps out of sequence and agreed it would be best to know what the effects are before we look at potential PM&Es but because of the time schedule, we are forced to begin thinking about these things in at least conceptual terms now. Wayne asked NMFS and DFG if they had policies or goals regarding predation. Eric responded that they do have goals/policy regarding introduction and predation and Mike Mainz added that it was always an issue in the Bay/Delta Program but the extent or long-term impacts are unknown and may never be understood. In addition, goals tend to change over time. He said at one time DFG built a fish barrier on the Belden reach of the North Fork Feather River to exclude predators when trout was the main goal but now they are planning to remove it because the goals have changed.

Chuck Hansen told the participants that he had been involved in predation control measures on striped bass in the Mokelumne River but ran into significant policy and public relations issues so the measures were not enacted. He also noted that many studies are aimed at areas of concentration such as bypasses or constructed barriers but few study what is happening in the river itself. He suggested consideration be given to expected colonization rates so determine how frequently any proposed action would be necessary and cautioned against investigating temperature controls that simply move the problem further downstream.

Eric Theiss asked if they should be collecting more data to estimate relative abundance of predators. Michael Perrone, DWR fisheries study lead reminded the group that the Fisheries Technical Task Force considered a number of methods or indices to get at relative abundances of predators and decided that it couldn't be done in a practical manner to any acceptable degree of accuracy so the group agreed to move right to an evaluation of potential PM&Es to see if anything was of interest. Mike Mainz suggested that we focus our efforts on artificial structures and Dave Olson pointed out that Task 3 of F21 will do that. Eric asked what we would know at the end of Task 3 and Dave responded that we would have a better idea of the relationship between

predation and artificial structures and PM&Es. Eric countered that it would only be an educated guess with regard to PM&Es and Dave replied that the literature is pretty conclusive that even studies conducted specifically to measure effectiveness have been unable to quantify the impact of predation control measures.

Eric acknowledged that Craig Fleming with USFWS was convincing when he suggested collecting data would not yield useful information, but he asked if we could get a before and after snapshot by evaluating catch rates even though it would be difficult to use for comparison due to variable water year types. Wayne Dyok asked if relative abundance data would be obtained by the snorkeling surveys. Mike Mainz added that he would not approve any additional data collection for this study plan until the current plan is completed. Eric suggested that if we're not getting adequate data from other studies, he would like to develop an angler survey to identify locations with predators. Michael Perrone noted that they know many predators congregate at the Afterbay outlet but it is too dangerous to snorkel there. Eric asked that DWR summarize what information is expected from various studies that will assist in evaluating relative predator abundance and help concentrate efforts. Chuck Hansen suggested taking a look at local anglers who know where the predatory fish are concentrated in the river and reviewing the CWT studies for useful information on releases and recovery at Chipps Island.

SP-W7

Jerry Boles, DWR study lead distributed Progress Report SP-W7, Land and Watershed Management Effects on Water Quality (Attachment 6). He explained the report documents land use activities in and adjacent to the project boundary and documents types of chemicals associated with various land use activities. He reported that the PCP plume and groundwater contamination has been cleaned up and the EPA superfund site at the Louisiana Pacific property de-listed. He also described the gravel mining operations within the Oroville Wildlife Area and explained that the gravels are mined from cobbles not from the river but runoff from washing the gravel does end up in the river. There is no NPDES permit for this site and DWR is proposing to monitor turbidity, sediments and mercury (Hg).

Jerry also explained the Mosquito Abatement District (MAD) program and when asked by Eric Theiss for the maps of treatment ponds and spray dosages, responded that the ponds are quite small and Jerry didn't think that Mosquito Abatement District kept those types of records. He will discuss the chemicals used and areas sprayed with MAD. Eric asked how much connectivity exists between the ponds and the river and suggested a study to measure the temperature of the water seeping into the river from ponds at various locations along the riverbank. Jerry responded that there isn't much volume of water seeping from the ponds into the river and doubted that a study like that would yield valuable information. He outlined DWR's intention to do visual inspections of project waters for turbidity at locations that include the City of Oroville discharges, chemical monitoring for bacteria, metals, nutrients, and pesticides from Kelly Ridge runoff, and the chemical use at ponds and for grass control at Thermalito Forebay.

SP-F2

Mary Lou Keefe, consulting team fisheries study lead reviewed additional information related to the fish disease study. She reported that two strains of IHN, which differ in virulence, have been identified. They are no longer stocking Chinook in Lake Oroville because they believe there is a connection between Lake Oroville stocking and disease outbreaks at the hatchery. Chuck Hansen asked if the diseased hatchery fish are transmitting disease to wild fish and Mary Lou replied that studies have not been able to demonstrate transmissibility. Mary Lou hypothesized that while the pathogen is in project waters, we might fail to see an outbreak of the disease because predators pick off the less fit prior to the occurrence of an outbreak. Terry Mills added that DWR is currently issuing contracts to Ron Hedricks at UCD and Scott Foote at California/Nevada fish health lab for further study into these issues.

SP-T9

Interim Report SP-T9, Recreation and Wildlife was distributed to the participants (see Attachment 7) however Dave Bogener, DWR study lead was unavailable for the meeting so Terry Mills asked that any questions regarding the interim report be deferred until the next Environmental Work Group meeting.

V. Geographic Area Discussion – The Low Flow Channel (LFC) from the Fish Barrier Dam to the Outfall

Terry Mills reminded participants that they had agreed to look at the project in geographic units and this meeting would concentrate on the LFC. He said the goal is to get issues on the table for discussions that will eventually lead to recommended resource actions. He reminded everyone that these brainstorming sessions are meant to be informal and no one is obligated to do anything that is discussed while the Work Group makes progress toward the development of PM&Es. Terry distributed a document titled "Draft Resource Action Development for Geographic Area Discussion: The Low Flow Channel from the Fish Barrier Dam to the Afterbay Outfall" (see Attachment 8) and explained that the document was built from existing information developed by the Environmental Work Group such as the Issue Sheets and Issue Statements. The document includes sections on resource goals, key results or information, data available and data forthcoming, and potential PM&E measures in response to potential impact questions specific to the LFC.

Michael Perrone described the key physical characteristics of the LFC for the salmon including the Fish Barrier Dam, the Fish Hatchery and Hatchery ditch, a side channel where hatchery water returns to the river after passing through a settling pond and where most steelhead spawning occurs. He explained that fishing in the LFC is catch and release most of the year and closed after August to all fishermen upstream of Highway 70 Bridge. Eric See, DWR biologist explained that the City of Oroville utilizes the Bedrock Park area as a swimming facility in the summer and most steelhead rearing occurs in the upstream end of the LFC, noting there is little side channel habitat otherwise. Salmon are found in Robinson pond in the summer and Eric indicated the temperature compliance point is just upstream of Robinson pond.

VI. PM&E Development

Terry Mills suggested that this agenda item blended well with the proceeding one and invited participants to begin thinking of additional potential PM&Es specific to the LFC for discussion. Eric Theiss asked if they developed side channel habitat as a PM&E would they pick up leachate from the gravel mining/washing operation? Jerry Boles responded that DWR would be monitoring the wash water prior to entry into the river.

Wayne Dyok reminded the participants that the geomorphic studies would address bedload movement and particle size distribution downstream from the dam. He asked if there were physical barriers to fish passage in the LFC. Eric See responded that there are no physical barriers in the LFC but passage impediments do occur downstream near Gridley. Mike Mainz asked if we were considering all migratory fish that may include shad, striped bass, and Pacific lamprey. Michael Perrone noted that striped bass and shad don't spend any time in the LFC. Mike Mainz asked that thermal barriers be examined as well as physical barriers.

Dave Olson suggested that if gravel recruitment is eventually desired, a source of the gravel might be excavation for construction of side channel habitat as Eric Theiss suggested. Eric See noted that the gravel could also come from excavations to make new ponds at the Oroville Wildlife Area. Eric Theiss asked if DWR intended to put all of the proposed PM&E measures in the template

format for further review and discussion by the Environmental Work Group and Terry Mills responded affirmatively.

The Environmental Work Group discussed potential impacts to T&E species in the LFC and Mike Mainz reminded participants that they were going to investigate allowing spring run to pass above the Fish Barrier Dam. Eric Theiss added that in SP-F9 the plan is to put fish in the pool in the spring.

No specific PM&E measures were identified related to disease within the LFC however Mike Mainz suggested that hatchery trays could be replaced with hatchery jars and eliminate the use of chemical disinfectants. The participants discussed the potential to find alternative sources of water for the hatchery so that the temperatures in the LFC are not so directly tied to the temperature needs of the hatchery. They discussed the potential to use groundwater, to utilize the additional intake structure located on the north side of Oroville Dam, and the Palermo Canal.

VII. Next Steps / Future Agendas

The Facilitator reviewed the draft future meeting agendas and indicated what deliverables and updates were due at future meetings. Interim or progress reports due in March include the following study plans: F10, F2, T3/5, T4, T7, T9, T1, W3, W5. April deliverables include tasks from study plans F9, F1, F8, and W2.

Terry Mills asked if the geographic approach was helpful. Wayne Dyok outlined the sub-areas in addition to the LFC as: 1) the Afterbay outfall to the Sacramento River, 2) Lake Oroville and upstream tributaries, and 3) the Thermalito complex including the Forebay, Afterbay, and Diversion Pool. Mike Mainz suggested the Feather River be further sub-divided into three reaches: 1) from the Afterbay outfall to Honcut Creek, 2) Honcut Creek to the Yuba River, and 3) the Yuba River to the Sacramento River. Participants agreed that this approach is worthwhile and acknowledged the amount of advanced preparation necessary to ensure a productive discussion. Terry Mills thanked the consulting team and technical leads for their work pulling together the LFC information. He suggested that the reports on study deliverables should be shorter and follow the earlier guidance to provide a bulleted list of key findings so the Environmental Work Group can have more time for PM&E discussions. Eric Theiss asked the facilitator to send an e-mail recapping what the participants could expect at the next Environmental Work Group meeting. The participants agreed to discuss the following geographic segments at their next meeting: the Thermalito outfall to Honcut Creek; Honcut Creek to Yuba River; Yuba River to Sacramento River; Thermalito Forebay/Afterbay/Diversion Pool (includes OWA). The participants agreed that the March Work Group meeting would be:

Date: March 26, 2003
Time: 9:30 a.m. – 3:30 p.m.
Location: Kelly Ridge Golf Course Meeting Room

Future Environmental Work Group meetings may be held at the Oroville Field Division.

Action Items

The following action items identified by the Environmental Work Group includes a description of the action, the participant responsible for the action, and due date.

Action Item #E78: Status of Section 10 process.
Responsible: DWR
Due Date: March 26, 2003

Action Item #E79: Summarize what data might come from other study plans that will help evaluate predator issues.
Responsible: DWR
Due Date: March 26, 2003

Action Item #E80: E-mail fish disease update.
Responsible: Wayne Dyok
Due Date: March 26, 2003

Action Item #E81: Send e-mail outlining next work group meeting activities.
Responsible: Facilitator
Due Date: March 14, 2003